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Howard K. Gloyd, Director.

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A New Species of Uropodine Mite, *Polyaspinus higginsi* (Mesostigmata: Trachytoidea: Trachytidae)

Joseph H. Camin

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In 1917 Berlese erected the genus *Polyaspinus* for his *P. cylindricus* from France. Since that time *P. cylindricus* has been found throughout much of the European continent and in England, but no other species have been added to the genus. Trägårdh (1941) proposed a separate family, Polyaspinidae, for the genus, primarily because of the minute metasternal shields. In a recent paper (Camin, 1953) it was shown that this character is of generic importance only and that the differences between the genera *Trachytes* and *Polyaspinus* are of no greater significance than the differences among the four genera of the closely related family Polyaspidae. Therefore, the genus *Polyaspinus* was placed along with *Trachytes* in the family Trachytidae.

A single female specimen, representing a second species of the genus *Polyaspinus,* was collected near Preston, Idaho by Harold Higgins of Salt Lake City, Utah in 1952. This specimen was very kindly donated to the Chicago Academy of Sciences. It is herein described and the species is named for the collector.

Polyaspinus higginsi new species

Adult Female. Body 840 x 425μ ; elongate oval with vertex projecting to a point anteriorly ; flat or slightly concave dorsally ; convex ventrally ; anus on a projection.

Venter, Figure 1. STERNAL SHIELD fused between coxae III and IV and around coxae IV with parapodal and peritremal shields, and around

genital aperture with shields of opisthosoma, so that entire venter is sclerotized. Sternal shield heavily sclerotized along anterior margin ; with an indentation medially between two slightly raised mounds bearing first pair of sternal setae. Sternal setae I on line with lateral margins of tritosternal base or with inner margins of coxae I. Sternal setae II approximately on line with posterior margins of coxae II, more than twice as far apart as setae I. Setae III somewhat behind anterior margins of coxae III, slightly farther apart than setae II. Distance between setae I and II approximately one and one-half times the distance between

II and III. Pseudosternal setae flanking epigynial shield between coxae III and IV, approximately equidistant between setae III and metasternals. Metasternal setae on minute, oval platelets flanking posterior corners of epigynial shield, on line with posterior margins of coxae IV. Sternal pores I directly behind setae I ; pores II not observed ; pores III on metasternal plates, just anterior to setae IV. Sternal setae all simple, of moderate length. Sternal shield with a pair of pores or rounded pit-like structures on lateral margins at level of middle of coxae II; another pair between coxae II and III. EPIGYNIAL SHIELD longer than broad ; rounded anteriorly, truncate posteriorly ; extending between posterior margins of coxae IV and third sternal setae, just behind anterior margins of coxae III; free anteriorly and laterally, distinctly hinged posteriorly. MEDIAN SHIELD present on dorsal wall of vagina, with a pair of double pores on posterolateral margins. OPISTHOSOMA as figured, with four pairs of simple setae of moderate length ; two pairs of large, leaf-like setae on small, heavily sclerotized platelets ; two pairs of double pores, a pair of single, round pores, and two pairs of lyriform fissures. Ventral region with an area of scale-like sculpturing centrally ; two small, areolated patches behind coxae IV; with a heavily sclerotized ridge along the margins, extending anteriorly along peritremal plates. STIGMATA between coxae III and IV; peritremes difficult to discern, extending to area between coxae II and III and ending in a loop or following margins of body to vertex. ANUS on a slightly raised, comparatively smooth area of same texture as ventral region ; with a pair of pores laterally, two pairs of simple adanal setae, and a small, leaf-like postanal seta. Region surrounding anal projection slightly depressed and areolated. TRITOSTERNUM with broad, oblong base and two forked lacinae.

Dorsum, Figure 2. VERTEX with two pairs of leaf-like setae at tip ; fused laterally with dorsal extensions of peritremal plates, which show dorsally to level of stigmata ; and fused posteriorly with anterior margin of median dorsal shield. A pair of setae at junction of vertex and median dorsal shield. MEDIAN DORSAL SHIELD large, narrow, elongate,

almost two and one-half times longer than broad, covering most of dorsum ; lateral thirds areolate, with adherent nymphal skins, with four pairs of simple setae on anterolateral margins and three pairs of

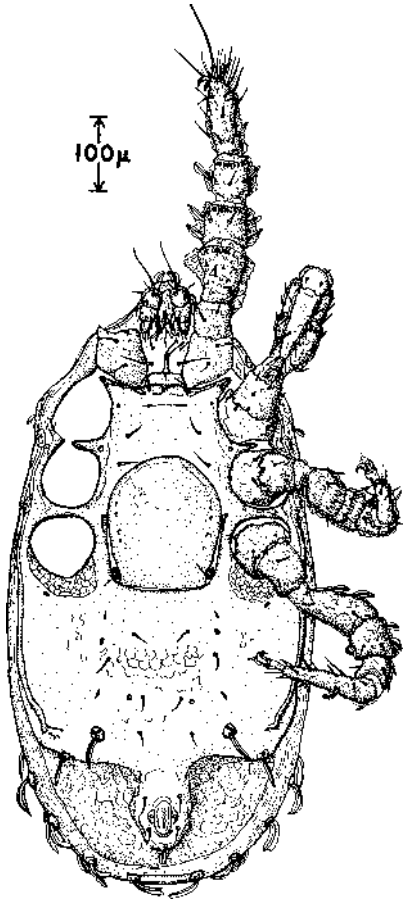


Figure 1. *Polyaspinus higginsi* n. sp., ventral view.

longer, leaf-like setae on posterior margin ; with longitudinal, median furrow running almost entire length of shield ; furrow with scalloped margins and with seven pairs of simple setae. POSTERIOR DORSAL SHIELD almost as broad as median dorsal shield, approximately one and one-half times wider than long; three-lobed, with median lobe slightly raised and

comparatively smooth, lateral lobes areolate with adherent nymphal skins and bearing a pair of large, leaf-like setae on a pair of more heavily sclerotized platelets. A narrow TERMINAL SHIELD bearing a pair of leaf-like setae on more heavily sclerotized platelets; shield visible from both dorsal and ventral view. MARGINAL SETAE on small, independent

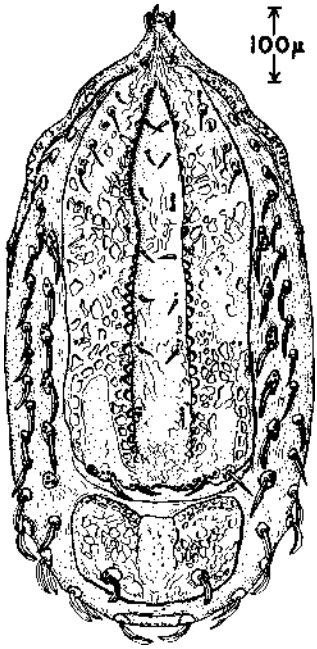
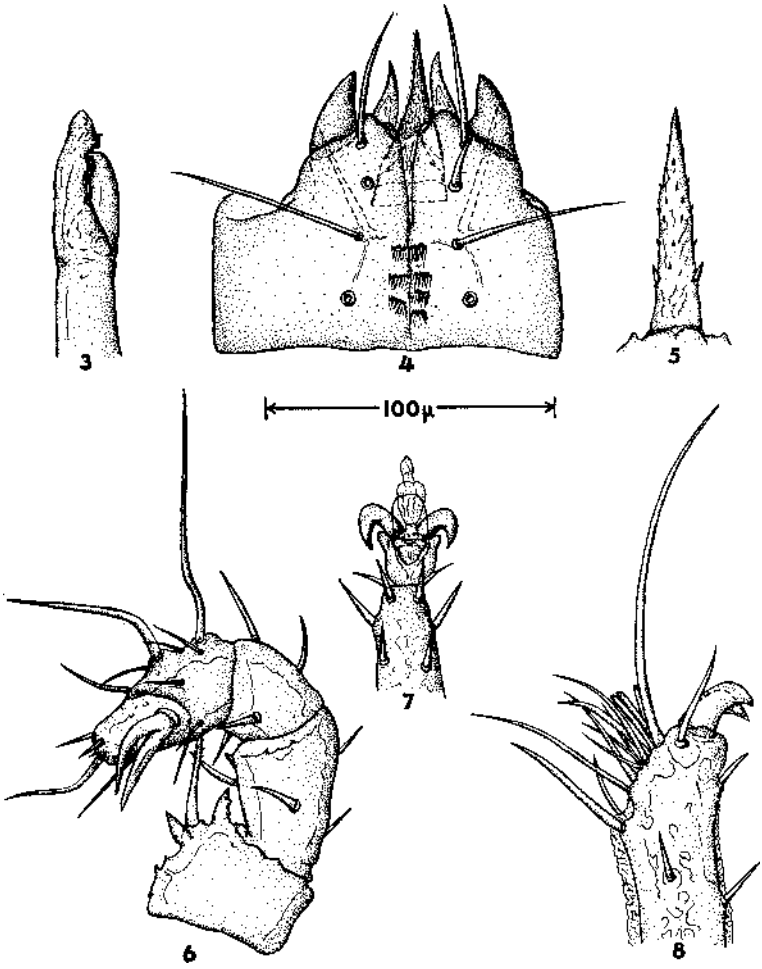


Figure 2. *Polyaspinus higginsi* n. sp., dorsum.

platelets in band of soft integument between dorsal and ventral shields; approximately twenty pairs of large, leaf-like, outer marginal setae on minute platelets without pores; seven pairs of large, leaf-like, inner marginal setae on larger platelets, each with one or two pores, except posterior pair. Soft integument striated.

Gnathosoma. Chelicerae (Fig. 3) typically trachytid ; movable digit one-third shorter than fixed digit, ending in a recurved point, with one blunt tooth and a seta just distal to the tooth ; fixed digit flattening out distal to tip of movable digit into a hatchet-like tip, with one toothlike projection on flattened tip and a comb of very fine teeth opposing area between tooth and tip of movable digit. Gnathosoma (Fig. 4) and hypostomal setae in two irregular, longitudinal rows; gnathosomal



Mouthparts and tarsi of *Polyaspinus higginsi*.

Figure 3. Chelicera.
Figure 4. Gnathosoma, ventral view with chelicerae and pedipalps removed.
Figure 5. Tectum.
Figure 6. Pedipalp, medial view.
Figure 7. Tip of tarsus and pretarsus of leg II.
Figure 8. Tip of tarsus I.

setae were knocked off during dissection and cannot be described here ; proximal hypostomal setae simple, very long, almost as long as gnathosomal base ; medial hypostomal setae simple, equal in length to corniculi ; distal hypostomal setae simple, long, approximately two-thirds the length of proximal setae. Three or four pairs of combs of fine deutosternal teeth between gnathosomal setae and proximal hypostomal setae. Corniculi strong, short, little longer than broad. Hypostome ending bluntly, without processes. Hypopharyngeal processes fleshy, pointed, equal in length to corniculi. Epipharynx tongue-like, covered with fine setules. Hypopharyngeal styli well-developed, short and thick, with a barb on posterior margin. Salivary styli extending from base of proximal hypostomal setae to tip of hypostome or slightly beyond. Tectum (Fig. 5) long, narrow, tongue-like ; with a pair of strong teeth about one-fourth its length from its base and sparsely covered with smaller, strong teeth. Pedipalps (Fig. 6) five segmented, excluding coxae ; ventral side of trochanter with two large projections, several spines, and a long, stout seta with a serrate tip ; tibia with two long, whip-like setae dorsally ; tarsus with a shorter, whip-like seta distally ; forked seta of tarsus as long as tarsus, with two subequal tines.

Legs, Figure 1. Legs approximately one-half body length ; leg IV longest, with legs I, II and III in order of diminishing size ; with simple setae ventrally, leaf-like setae dorsally. Leg I, especially the femur, with large, fimbriate growths. Tarsi II (Fig. 7), III and IV with pretarsi, caruncles and claws ; with a thin membranous flap ventrally and a fleshy lobe between the claws, bearing a second, smaller, retractable lobe distally. Tarsi I (Fig. 8) lacking pretarsi and caruncles, but with strong claws, somewhat larger than those of other legs. Tarsus I with a clump of sensory setae dorsally at distal end, including one very long, tactile seta, almost as long as the tarsus.

Type specimen. The holotype female, slide 0-85, is deposited in the mite collection of the Chicago Academy of Sciences. It bears the data, "7 miles east of Preston, Idaho. Under aspens. October 9, 1952. Collector, H. Higgins."

Polyaspinus higginsi is approximately one-eighth larger than *P. cylindricus* and can be distinguished on the basis of a number of other characters. The epigynial shield of *P. higginsi* is somewhat shorter, broader and more rounded anteriorly than that of *cylindricus.* It extends only to the level of sternal setae III, whereas the more pointed epigynial shield of *cylindricus* extends beyond setae III, half way to setae II. Because of the differences in the epigynial shields of the two species, the sternal shields are also differently proportioned. The sternal shield

of *higginsi* is proportionately longer, being more than one-half the length of the epigynial. That of *cylindricus* is much less than one-half the length of the epigynial shield. The longitudinal slit, which extends from the anterior margin of the sternal shield to the level of sternal setae II in *cylindricus* is represented only by a slight indentation in the anterior margin between setae I in *higginsi.* The distance from sternal setae I to setae II in *higginsi* is one and one-half times the distance from II to III. In *cylindricus* these distances are approximately equal. The horizontal separation between sternal setae II of *higginsi* is more than twice that between setae I. In *cylindricus,* is less than one and one-half times I-I. The ventral opisthosoma of *cylindricus* is distinctly pebbled in texture with smooth areas corresponding to the ventral, metapodal, anal and adanal shields. In *higginsi* the ventral opisthosoma is almost uniformly smooth, without pebbling or any differentiation of the ventral, metapodal or anal shields. However, surrounding the anal projection, corresponding to the smooth adanal areas of *cylindricus,* there is an areolated area in *higginsi.* Dorsally, *cylindricus* lacks the scalloping on the margins of the furrow, has only two pairs of setae on the posterior margin of the median dorsal shield, and has two or three pairs of setae on the posterior dorsal shield, the terminal setae sometimes being on this shield.

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